PRESENTATION OF WHEELS ON GAMING MACHINES HAVING MULTI-LAYER DISPLAYS

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application claims priority to U.S. Provisional Patent Application No. 60/858,741, filed on Nov. 13, 2006, which is incorporated herein by reference in its entirety and for all purposes.

TECHNICAL FIELD

[0002] The present invention relates generally to wager-based gaming machines, and more specifically to the presentation of wheels on processor-based, wager-based gaming machines.

BACKGROUND

[0003] A "mechanical reel" type gaming machine can refer to a slot machine having traditional rotating reels with various associated latches and mechanical parts. A mechanical reel usually has a fixed number of reel symbols disposed about a reel strip that is attached about the edge circumference of a wheel, such that the outer edge of the "reel" is viewed. In a purely mechanical gaming machine, a motor, spring, or other mechanical system physically rotates or spins the reel until it stops at a particular rotational position or "reel stop," and a particular reel symbol rests in view of a player to indicate an outcome for that reel for that given reel game. In many older machines, the reels were spun by potential energy first stored in a spring-loaded mechanism wound and then actuated by the pull of a traditional pull-arm handle. Each reel was stopped at a random position by a mechanical device. The slot machine sensed a combined reel outcome, usually along a central payline, by sensing the physical position of each reel. A payout could then be made to the player if the combined outcome was a winning combination.

[0004] Later versions of such gaming machines include "electromechanical" reel type gaming machines. Such electromechanical reel type gaming machines could include the same or similar physical rotating reels, with the starting, spinning and stopping of each such electromechanical reel being controlled by a stepper motor. One or more microprocessors are used to control the various reel stepper motors. The use of microprocessors and stepper motors generally allows for a wide expansion of "virtual" reel stops for each rotating reel, such that larger payouts and jackpots can be realized over purely mechanical reel type gaming machines. Still further versions include fully electronic or processor based gaming machines that are adapted to present "virtual" or simulated reels on one or more visual or video displays. These electronic or processor-based gaming machines are becoming the norm due to a variety of factors, such as their increased versatility and general appeal to players.

[0005] In a typical electronic gaming machine, a game play is initiated through a player wager of money or credit, whereupon the gaming machine determines a game outcome, presents the game outcome to the player and then potentially dispenses an award of some type, including a monetary award, depending upon the game outcome. Electronic and microprocessor based gaming machines can include a variety of hardware and software components to provide a wide variety of game types and game playing capabilities, with such hardware and software components being generally well known in the art. A typical electronic gaming machine can include hardware devices and peripheral such as bill validators, coin acceptors, card readers, keypads, buttons, levers, touch screens, coin hoppers, player tracking units and the like. In addition, each gaming machine can have various audio and visual display components that can include, for example, speakers, display panels, belly and top glasses, exterior cabinet artwork, lights, and top box dioramas, as well as any number of video displays of various types to show game play and other assorted information.

[0006] Advances in technology have resulted in processor-based gaming machines that are increasingly better at emulating actual mechanical reels from a mechanical or electromechanical reel-based gaming machine. Various efforts to simulate or realistically emulate mechanical reels on a video screen of a processor-based gaming machine abound. Some of such efforts can be found at, for example, U.S. Pat. No. 6,887,157, entitled "Virtual Camera and 3-D Gaming Environments in a Gaming Machine," as well as at Japanese Patent Publication No. 2006346226A2, entitled "Game Device and Game Program." Another reference that involves rotating reel games having processors is U.S. Patent Publication No. 2005/0285337, entitled "Dynamic Generation of a Profile for Spinning Reel Gaming Machines," and there are numerous other known instances of machines and systems involving rotating reel games that are controlled at least in part by a microprocessor.

[0007] Although simulations of physical reel based games are one popular application for electronic or processor-based gaming machines, it is generally well known that processor-based gaming machines can be used for a wide variety of other wager-based applications. Video poker, video keno and video blackjack are just a few examples of such other applications. Another application can involve the use of one or more spinning wheels, as opposed to rotating reels. In general, while the use of a rotating gaming reel tends to involve the sideways presentation of the reel, such that its outer edge is viewed, the use of a spinning gaming wheel tends to involve a frontal presentation of the wheel, such that a wheel face is viewed. Thus, while symbols or markers on a rotating gaming reel generally appear to move in a linear direction with respect to the player, symbols or markers on a spinning gaming wheel generally appear to move in a circular direction with respect to the player.

[0008] Gaming wheels are well-known in the gaming industry. As in the case of gaming reels above, gaming wheels can be purely mechanical, electromechanical and/or purely graphical or "virtual" in nature. One example of a mechanical gaming wheel is a standard roulette wheel, such as that which is used for roulette table games. Other mechanical gaming wheel examples include carnival style vertical wheels, such as that which is used for the game Big Six. Further well known examples of gaming wheels are the various electromechanical and "virtual" wheels that are used with various releases of the Wheel of Fortune® style games for processor-based gaming machines made by International Game Technology of Reno, Nev. ("IGT").

[0009] As is generally known, various versions of the Wheel of Fortune® game and other similar wheel type games can include the presentation of a "virtual" wheel on a video display or other visual display type of device on an associated processor-based gaming machine. Such gaming wheel presentations tend to be straightforward graphical presentations,